

Figure 1

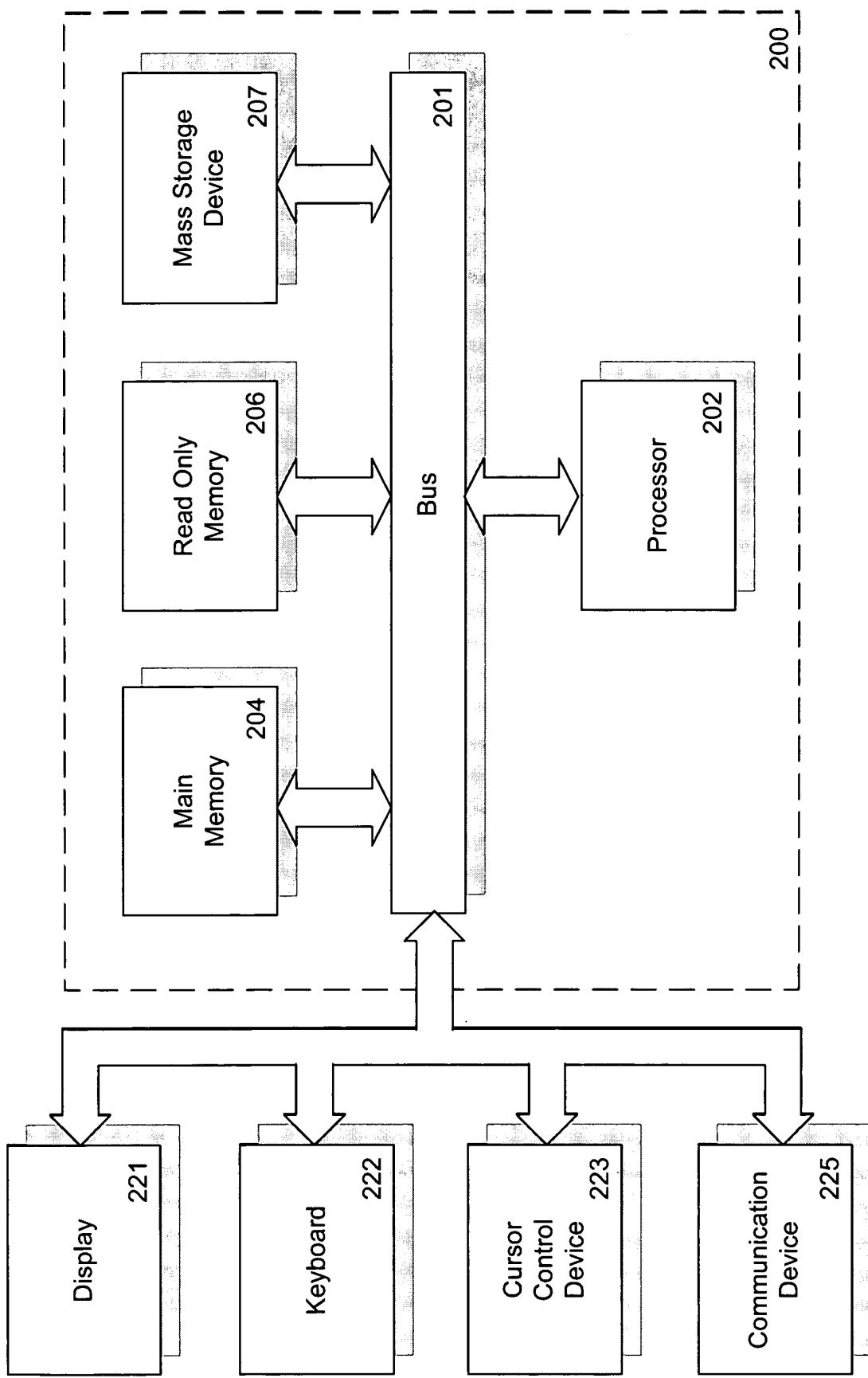


Figure 2

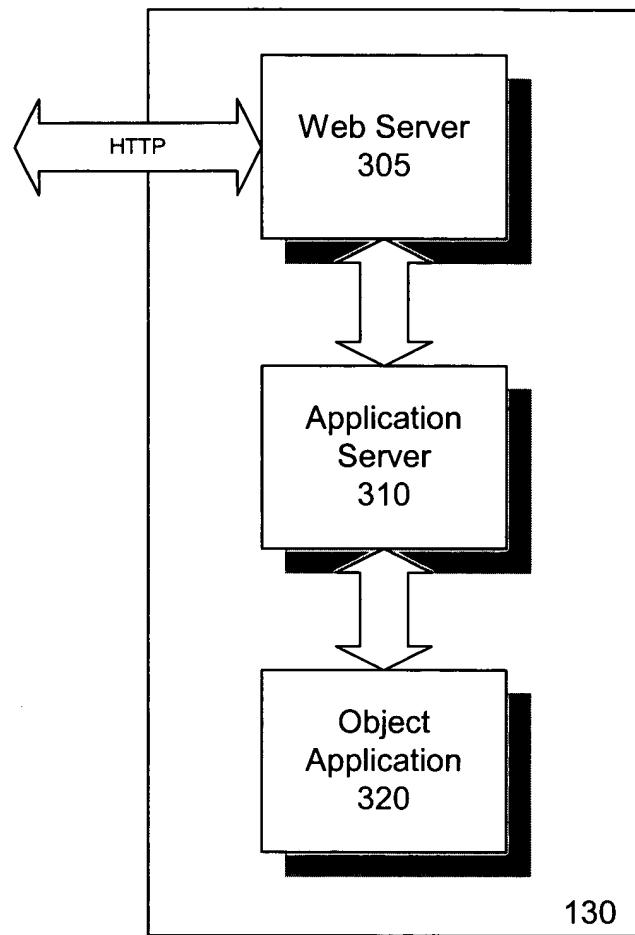


Figure 3

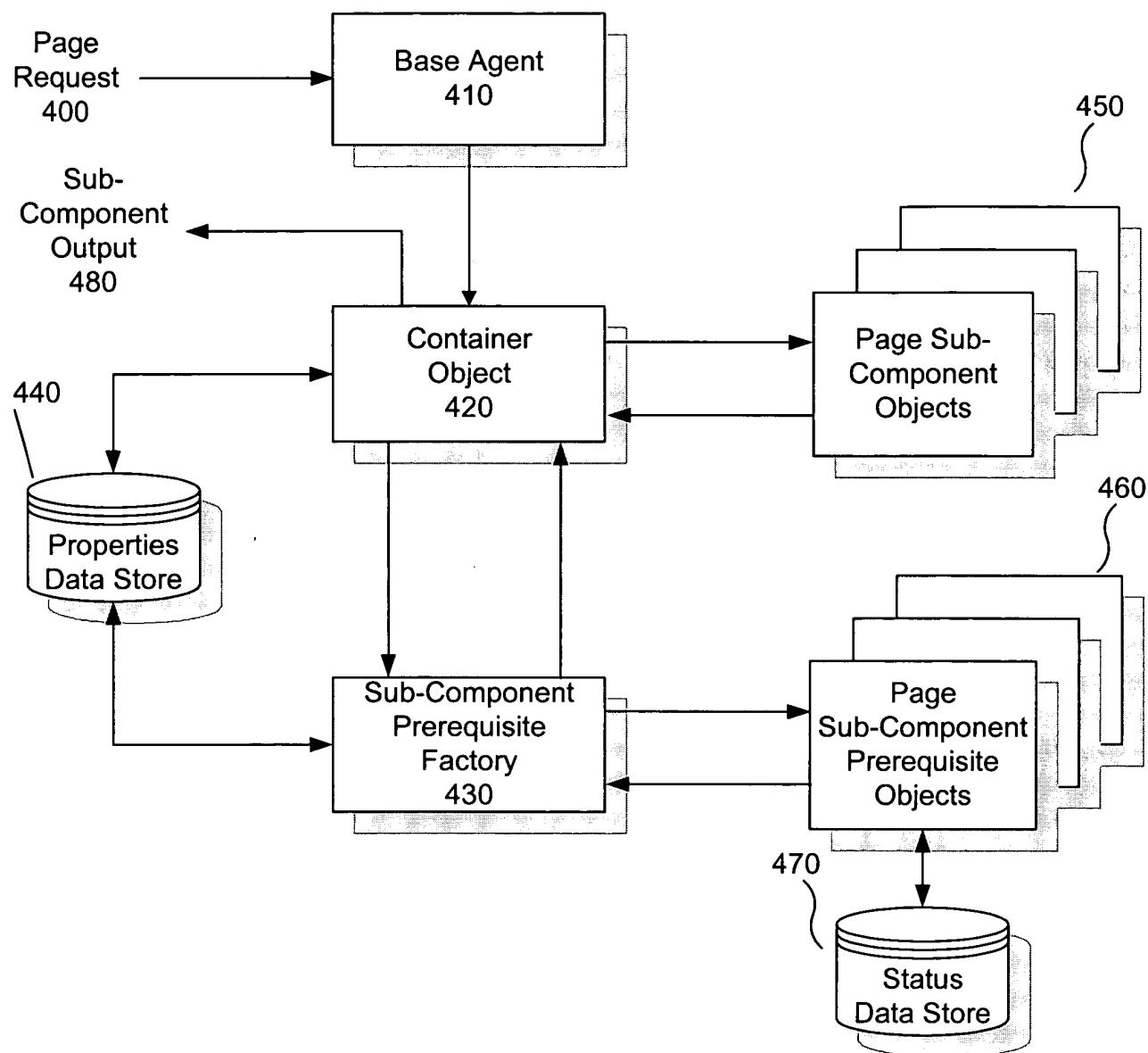


Figure 4

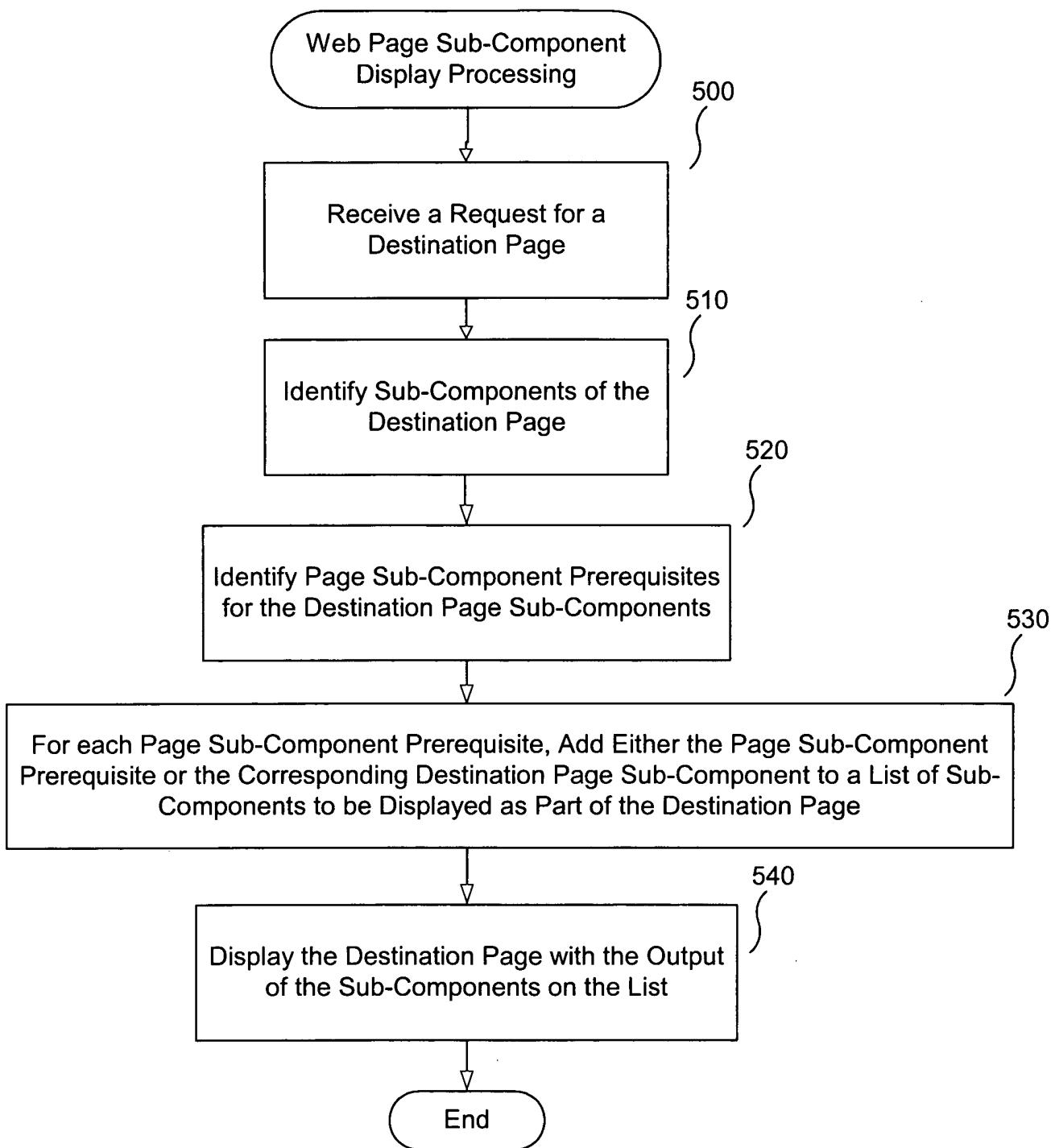


Figure 5A

TO 520 - 530 - 531 - 532 - 533 - 534 - 535

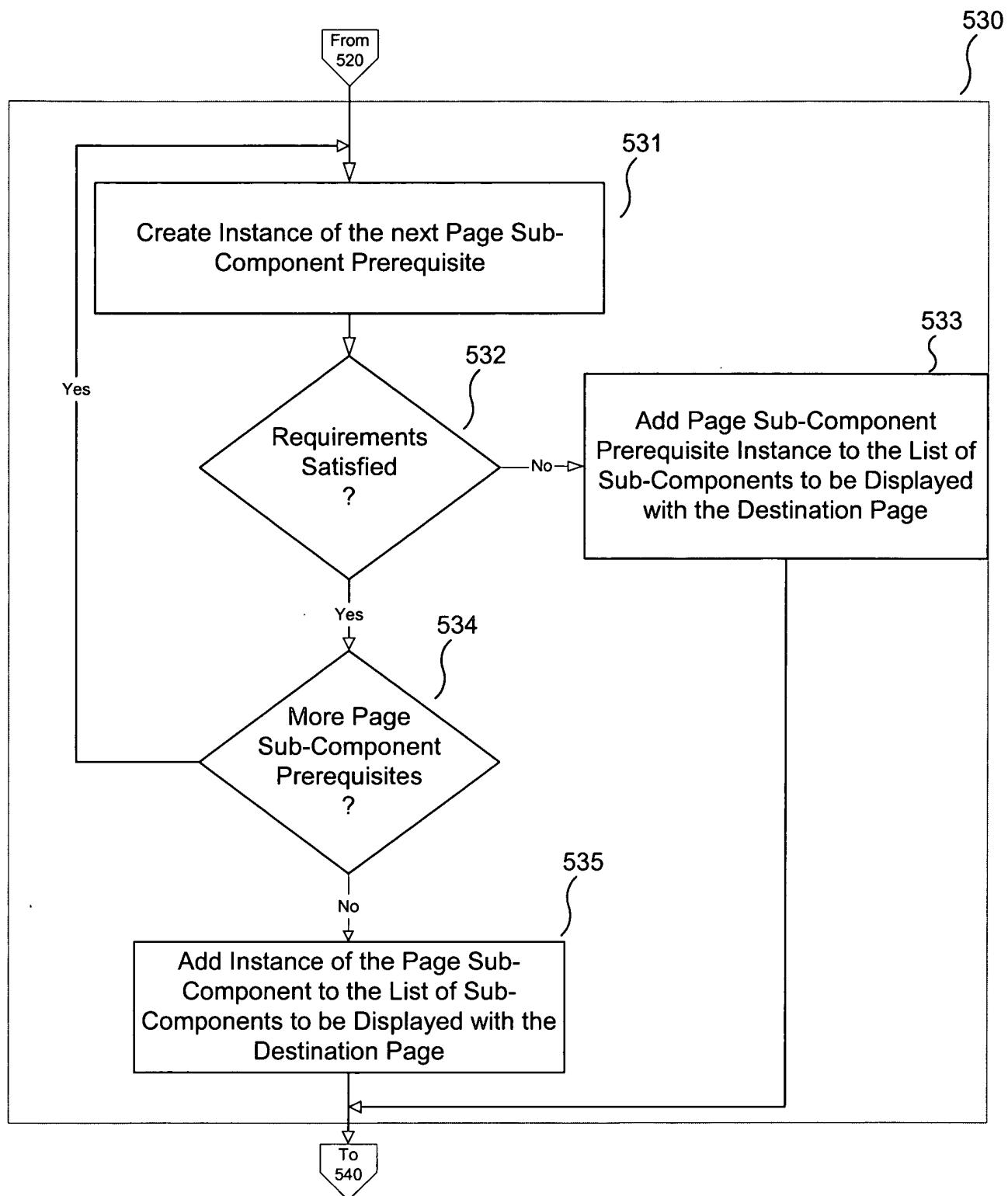


Figure 5B

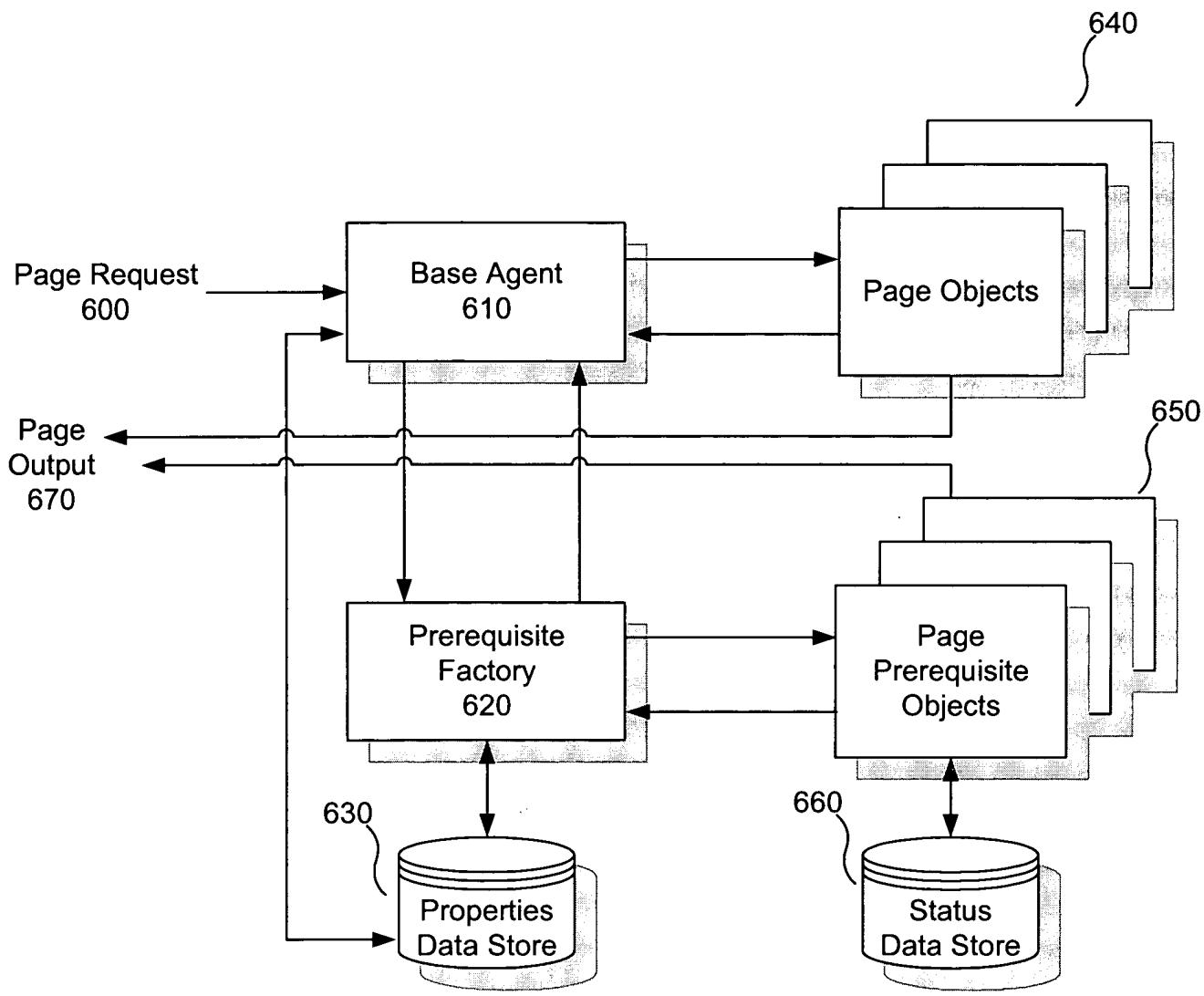


Figure 6

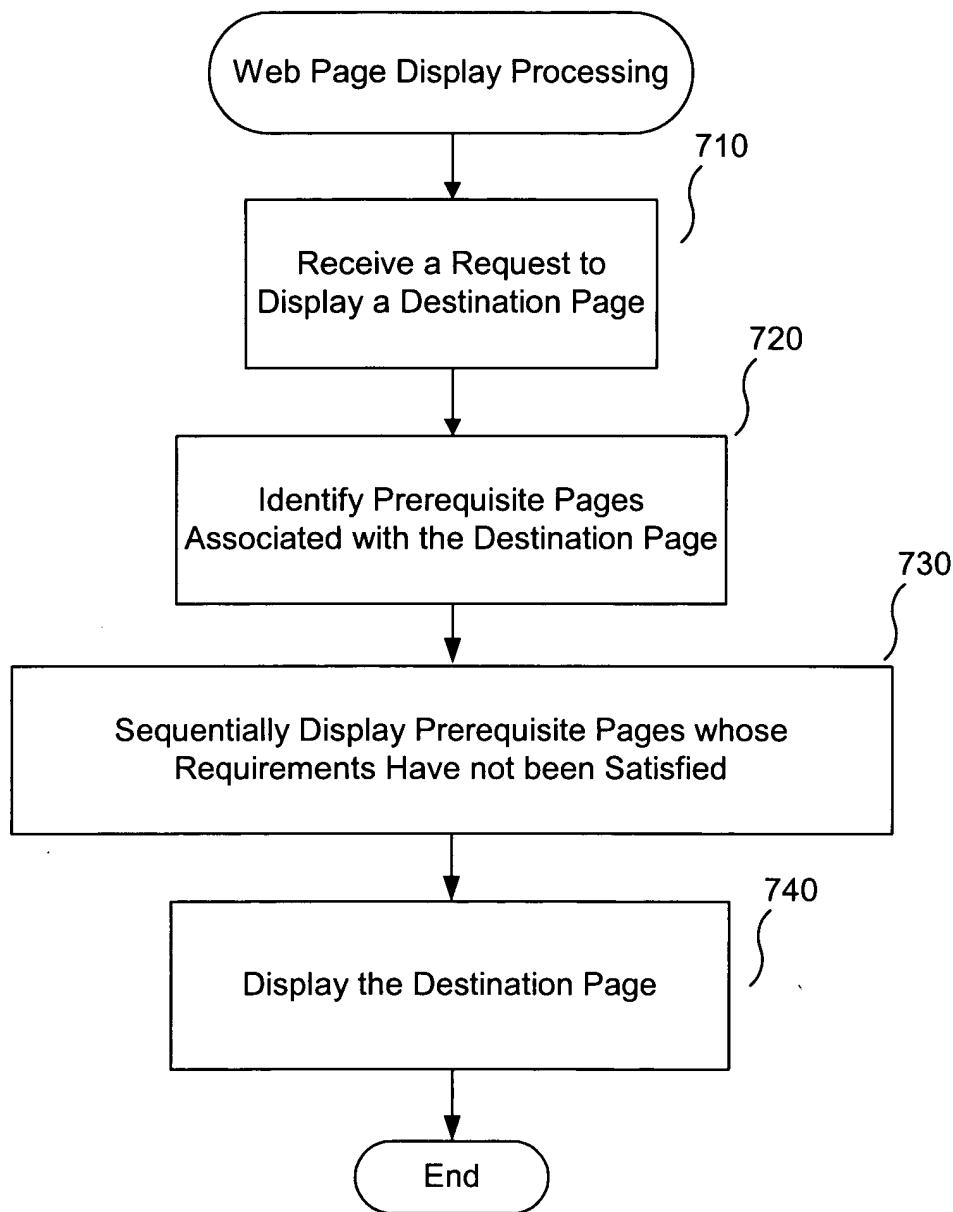


Figure 7A

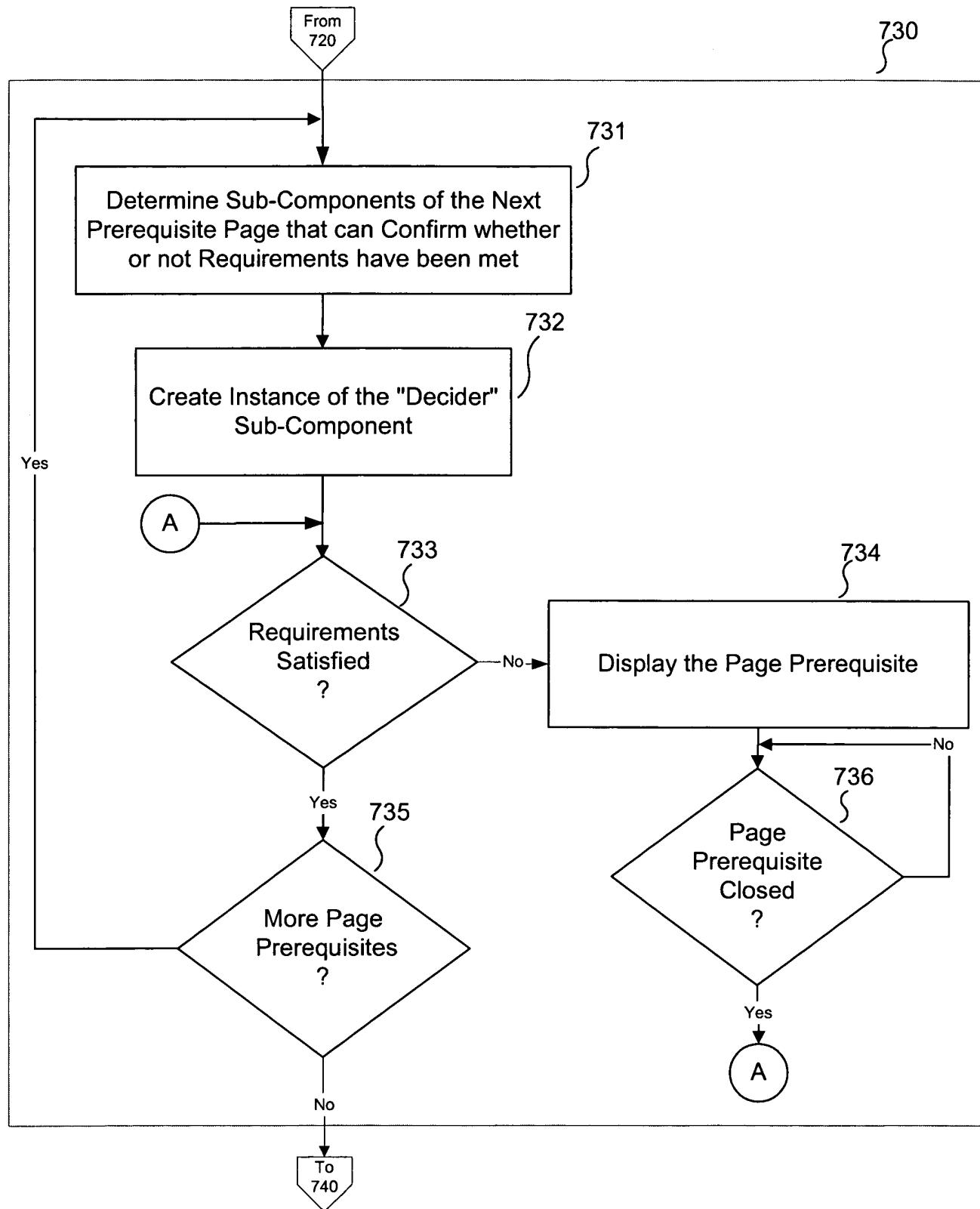


Figure 7B

810
<Attribute> = <Value>
820
prompt1 = please enter your name

Figure 8 (Prior Art)

910
<Object>.<Attribute> = <Value>
920
Obj1.attr1 = val11
930
Obj1.attr2 = val12
940
Obj2.attr1 = val21
950
Obj2.attr3 = val23
960
Trading.prompt1 = please enter your name

Figure 9

<Object>.extends = <anotherObject> 1010

Obj1.attr1 = val11 1020

Obj1.attr2 = val12 1030

Obj2.extends=Obj1 1040

Obj2.attr2 = val22 1050

Obj2.attr3 = val23 1060

Figure 10

TOX2801-0022860

<Context>.<Object>.<Attribute> = <Value> 1110

Obj1.attr1 = val11 1120

Obj1.attr2 = val12 1130

Page1.Obj1.attr2 = val112 1140

Figure 11

<Context>.extends = <anotherContext> 1210

Obj1.attr1 = val11 1220

Obj1.attr2 = val12 1230

Page1.Obj1.attr2 = val112 1240

Page2.extends = Page1 1250

Page2.Obj1.attr2 = val212 1260

Figure 12

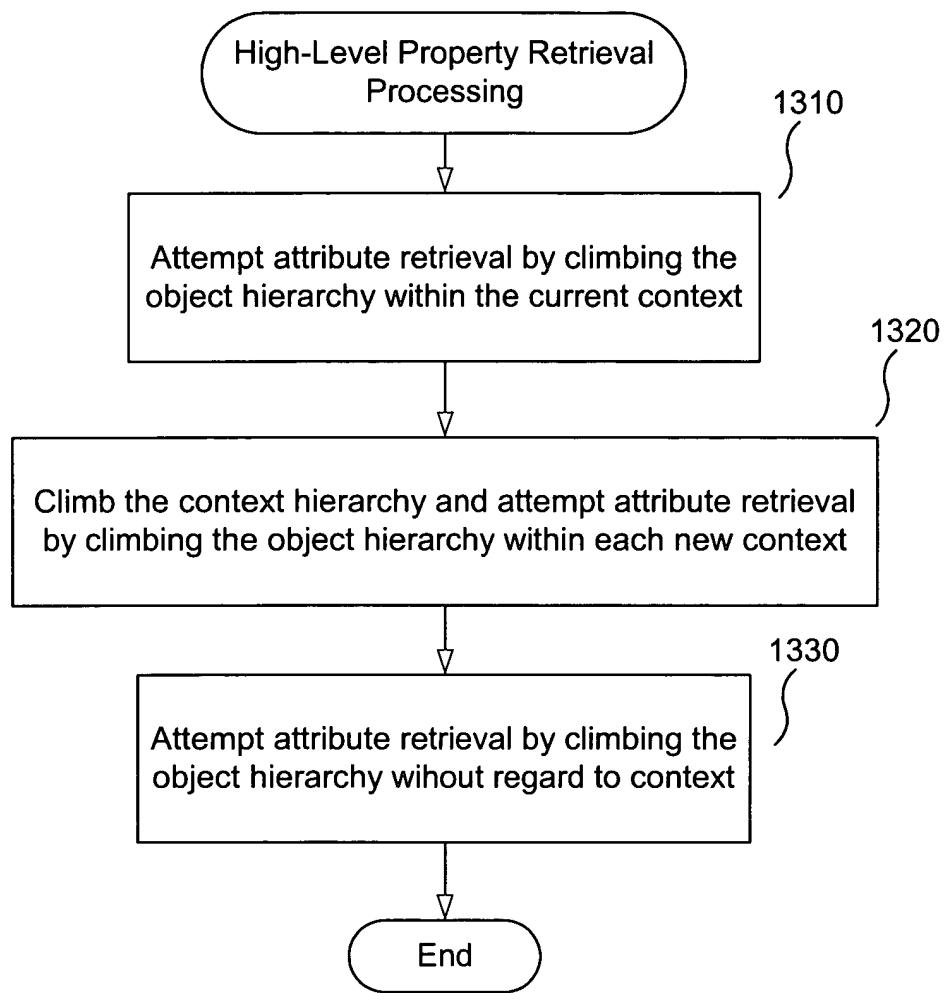


Figure 13

Page2.extends=Page1
Page3.extends=Page2

Obj2.extends=Obj1
Obj3.extends=Obj2

Figure 14A

TO 280-67292860

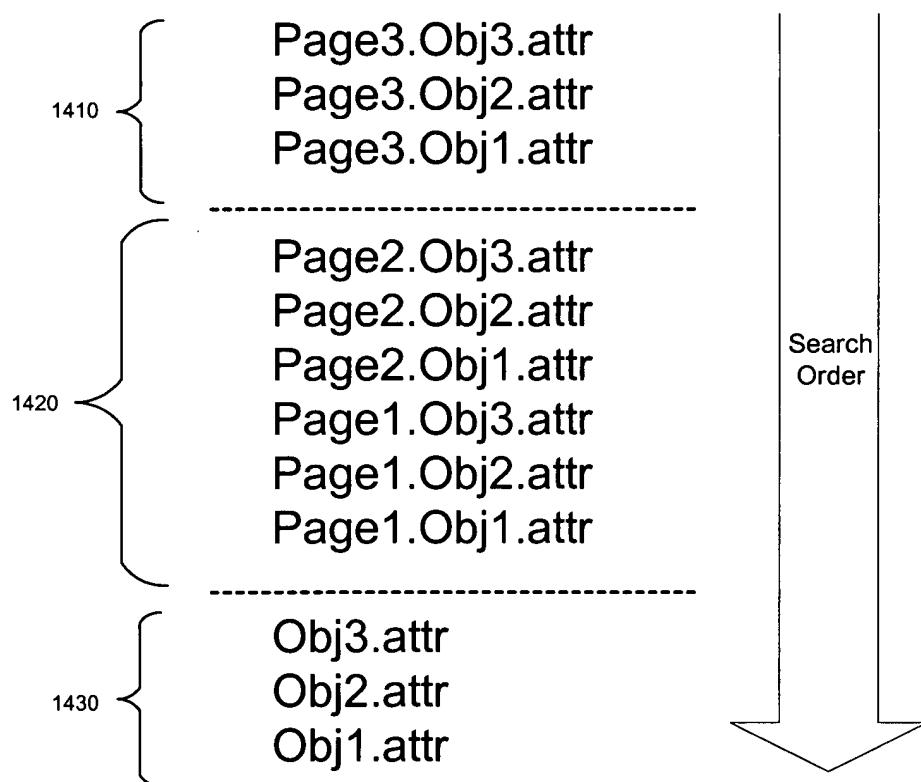


Figure 14B

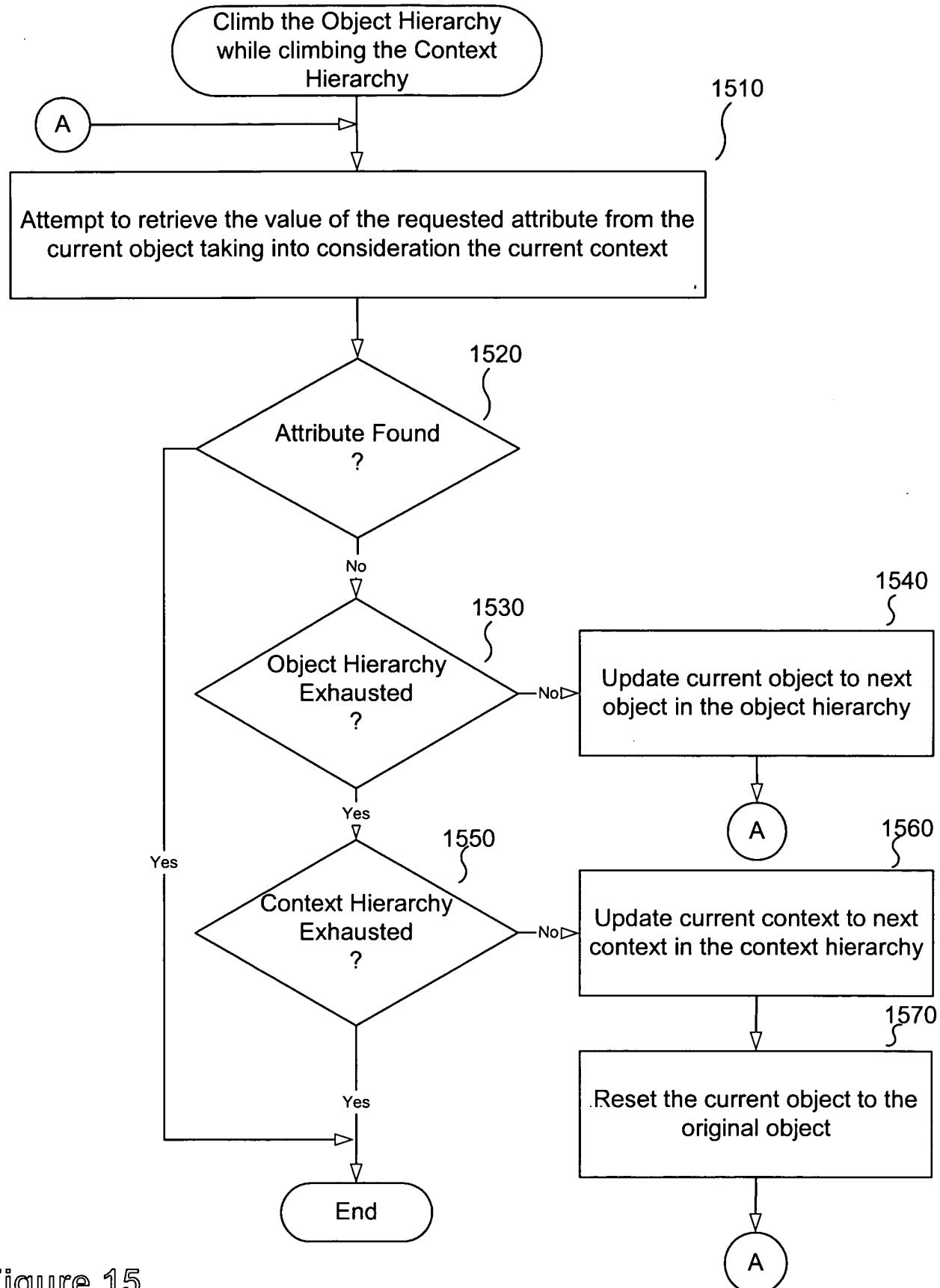


Figure 15

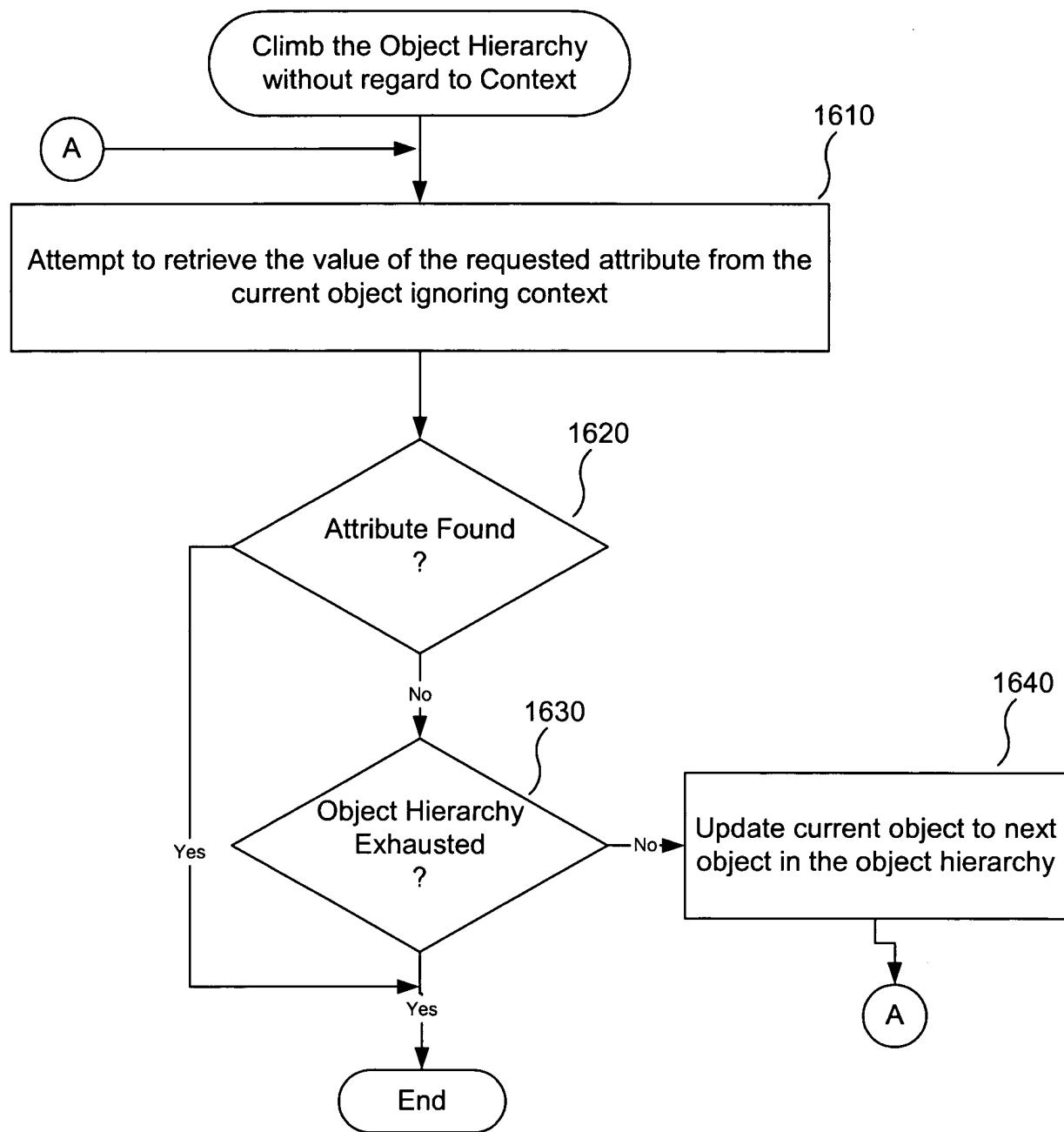


Figure 16

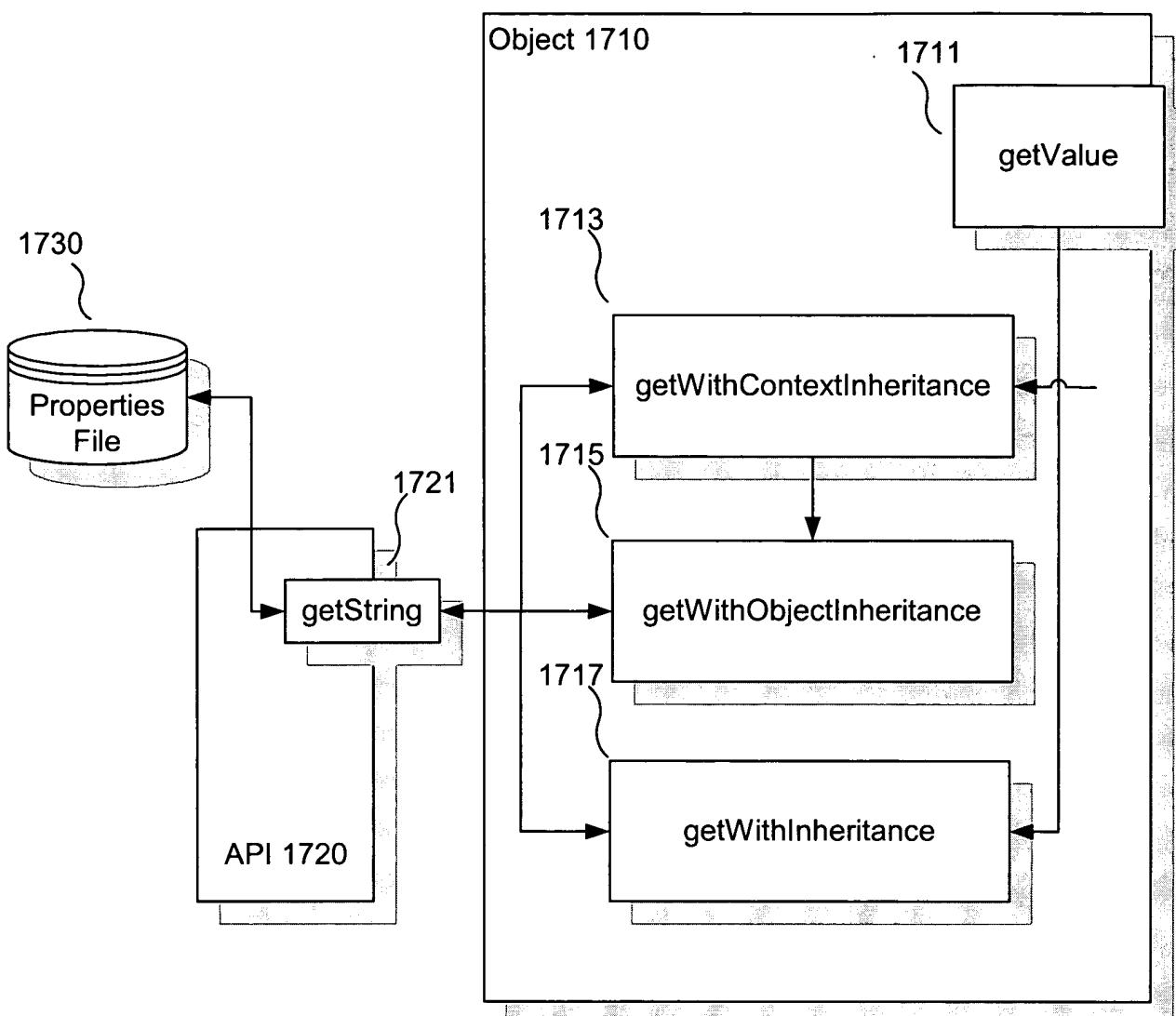


Figure 17

```
1.  String getValue( String attrib ) {
2.
3.      // get the container name of this object
4.      String context = getContextName();
5.
6.      // get the name of the class of this executing object
7.      String object = getClass().getName();
8.
9.      // check to see if within this context a value is defined for the
10.     // specified attribute for objects of the currently executing object's
11.     // type, or for any of its parent objects
12.
13.     String result = getWithContextInheritance( context, object, attrib );
14.
15.     if (result == null) { // if it's null it didn't find it.
16.
17.         // now try to find the value of the attribute of the object
18.         // by ignoring the context
19.
20.         // this will look for the attribute in all objects that are extended by
21.         // the current object
22.
23.         result = getWithInheritance( object, attrib );
24.
25.     } // end if
26.
27.     return result;
28.
29. } // end getValue
```

Figure 18

```
1.  String getWithContextInheritance(  
2.      String context, String object, String attrib) {  
3.  
4.      // check if the attrib is found in the current context by climbing up  
5.      // the object hierarchy if necessary  
6.      String result = getWithObjInheritance( context, object, attrib );  
7.  
8.      if (result == null) { //didn't find it in the current context  
9.          // check if this context extends another context  
10.         context = resourceBundle.getString( context + ".extends" );  
11.  
12.         //context now contains the name of the parent context, if any  
13.         if (context != null) // found a parent context  
14.             // this is a recursive call that looks for the attribute  
15.             // and climbs up the context hierarchy  
16.             result = getWithContextInheritance( context, object, attrib );  
17.  
18.     } //end if  
19.  
20.     return result;  
21.  
22. } // end getWithContextInheritance
```

Figure 19

```
1. String getWithObjInheritance( String context, String object, String attrib ) {  
2.     // concatenate context, ".", the object, ".", and the attrib  
3.     String lookFor = context + "." + object + "." + attrib;  
4.  
5.     // check if the combined attribute is found in the resource bundle  
6.     String result = resourceBundle.getString( lookFor );  
7.  
8.     if (result == null) { // didn't find it in the current object  
9.         // check if object extends another object, meaning  
10.        // it has a parent.  
11.        object = resourceBundle.getString( object + ".extends" );  
12.  
13.        //object now contains the name of the parent, if any  
14.        if (object != null) // found a parent object  
15.            // this is a recursive call that climbs up the  
16.            // object's hierarchy while keeping the context unchanged.  
17.            result = getWithObjInheritance( context, object, attrib );  
18.  
19.    } // end if  
20.  
21.    return result;  
22.  
23. } // end getWithObjInheritance
```

□□□□□□□□□□

Figure 20

```
1. String getWithInheritance( String object, String attrib ) {  
2.     // concatenate the object, ".", and the attrib  
3.     String lookFor = object + "." + attrib;  
4.  
5.     // check if the combined attribute is found in the resource bundle  
6.     String result = resourceBundle.getString( lookFor );  
7.     if (result == null) { //didn't find it in the current object  
8.         // check if object extends another object, meaning  
9.         // it has a parent.  
10.        object = resourceBundle.getString( object + ".extends" );  
11.  
12.        // object now contains the name of the parent, if any  
13.        if (object != null) // found a parent object  
14.            // this is a recursive call. Look for the attribute  
15.            // in the parent or its parents  
16.            result = getWithInheritance( object, attrib );  
17.  
18.    } // end if  
19.  
20.    return result;  
21.  
22. } // end getWithInheritance
```

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Figure 21